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Hans H. Landsberg

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The Medical Experience of the German Army in the World War: Non-Battle Casualties

The medical experience of the German Army in the World War is available in a three-volume report called Der Sanitaetsbericht ueber das Deutsche Heer (Deutsches Feld-und Besatzungsheer) im Weltkriege, 1914/18. From the data given in Vol. III of the report (to which all page references in this memo refer) it is possible to answer questions relating to sickness and hospital admission rates, death and unfitness rates, differential rates between officers and men, frequency of accidents, suicides, and specific diseases, mortality rates for specific diseases, etc. The period covered by all our data extends from August 2, 1914 to July 31, 1918.

Before proceeding with our findings we shall describe as briefly as possible some of the basic data on which the material is based. The basic figures which are referred to repeatedly and enter many of the computations are assembled in Table III at the end of the text, while the more detailed data are given in Tables I and II.

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A. Description of the Data.

1) There are two sources from which sickness data may be derived:

a) Men reporting sick with the troops.*

b) Men admitted to hospitals.

The two sources differ widely with regard to two respects. First, the number reporting sick is much larger than the number admitted to hospitals; while an annual average of 5,568,862 sickness cases[1] were reported, the annual average number of hospital admissions, for sickness only, was no more than 2,387,193.[2] In other words, only 43% of all men reporting sick reached a hospital. Secondly, the two sources differ with regard to distribution of cases by kind of sickness. Many times the case was diagnosed as one disease at the front, and as another in the hospital. The most striking case in this respect is that of grippe, which far outranked every other reported disease at the front, yet in the majority of cases was re-diagnosed as some other disease once the case reached a hospital.

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* Hereafter referred to as "reporting sick," "sick reports," or "sickness cases."

1/ pp. 19, 174; including fractures; though fractures, sprains, etc., are treated by the Germans under the heading "Wounded," it is quite clear that this group includes non-battle casualties. However, no breakdown is possible. In order not to underestimate non-battle casualties, we have included the entire group under diseases. The effect of this is to raise the daily sickness rate from 0.23 to 0.24% and the daily hospital admission rate from 0.098 to 0.103% (see below).

2/ pp. 174, 101*.

2) There is only one source which permits us to determine the final result of sickness: the hospital discharge reports. For an obvious reason these reports are not paralleled by reports of discharge from the troops, since all cases either recover with the troops, are sent to hospitals, or die. In the first case, they are covered by admission data; in the second, they are reported separately as "died without medical treatment." Apparently there are no cases of men becoming unfit from sickness, without passing through a hospital.

Discharges fall into three categories:

a) Recovered and became fit for service.

b) Died.

c) Otherwise discharged.

The last category in turn is made up of three groups: unfit for military service, sent on furlough, and deserters, but data are not given separately for the three. However, it is possible to determine how many were found unfit.

3) The strength of the Occupation Army is its actual strength; that of the Field Army, either actual (Iststaerke) or prescribed strength (Sollstaerke). Actual strength is computed on the basis of payroll and food ration records, while preseribed strength refers to the mobilized strength of the Army, assuming full and immediate

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replacements for those eliminated. While the two types more or less coincided during the early stages of the war, the actual strength begins to drop below the prescribed strength in the fall of 1916, until by July 1918 the actual strength falls more than 20% below the prescribed strength.3/ This of course is due to the fact that, to an increasing degree, full replacements failed to reach the individual combat units. Whenever percentage figures are given in this memorandum, they are based on actual strength, unless otherwise indicated.

B. Findings.

The findings are presented under seven headings, dealing respectively with

1) Daily sickness reports and hospital admissions.
2) Hospital discharge reports.
3) Frequency and severity of specific diseases.
4) Average number hospitalized July 31,1915-1918.
5) Differential death rates of officers and men.
6) Differential sick rates of field and occupation army.
7) Miscellaneous

1) Daily sick rate.

a) Reporting sick.

On the average, according to troop reports, there occurred annually, over the four-year period,

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3/ Cf., p. 8

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5,568,862 cases of sickness, equal to 87.4% of the average annual strength of the army, or to 0.24% per day. This figure must not be taken to refer to individuals, since many men reported sick more than once.4/

We may mention at this point that one-half of all casualties (wounded and sick) recovered without hospitalization.5/ For the sick alone the percentage not hospitalised was even higher, 57%,6/ and for the Field Army only about two-thirds of the sick recovered without ever having been hospitalized.7/

b) Admissions to hospitals.

As indicated above, not quite half of those reporting sick are admitted to hospitals. Thus the annual number of sickness cases admitted for the four-year average was almost exactly 2.4 million or 37.5% of the annual strength of the army. This works out to a daily admission rate of .103%. This rate is more than twice that of admission for battle injuries which amounts to .045%.8/ The sum of these two rates, .148%, is still smaller than the admission rate for sickness only of the U. S. army (.165), inspite of the fact that the

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4/ It is worth noting in this connection that the number of reported sick is almost four times that of the number reported wounded, the latter being 22.3% of annual army strength. The sum of all cases of sickness or battle injury over the four years related to the total number of men who were in the army at one time or other indicates that on the average every man was sick or wounded twice (pp.18,1

5/ p. 18
6/ Table III
7/ p. 86
8/ p. 20

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percentage of the sick reaching hospitals works out at 43,[6] while the U. S. army counts on a percentage of less than 30.[9] A breakdown of these admissions by kind of disease will be found later.

2) Disposition of sick.

The source which tells us the fate of those reporting sick and admitted to hospitals are the discharge reports of the front-line "sick rooms" and "first-aid stations" (Krankenstuben, Sanitaetsunterstaende) and of the hospitals.

Unfortunately, the troop discharge reports do not differentiate between battle- and non-battle casualties. Nonetheless a brief analysis of the data is indicated. This reveals that of a total number of 11,054,195 cases treated with their units (this represents a little less than half of all cases of wounded or sickness) 98.7% became fit for service, 0.6% died, and 0.7% were discharged as unfit, sent on furlough, deserted, etc.[10] For the remaining 12,709,023[10] cases which became hospital cases (1/3 of which were treated in field hospitals) the sickness cases can be identified. As mentioned above, the average annual rate of admission for sickness is 2.3 million.

9/ U. S. War Department, Staff Officers' Field Manual, FM 101-10, p. 154

10/ pp. 23,24.

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These were disposed of in the following way:[11]

	%
Recovered & Fit for Service	88.80
Died	1.28
Otherwise discharged (mainly unfit)	5.38
In hospital at end of period	4.54

For comparative purposes, we present a similar distribution of hospital cases admitted for wounds:[11]

Recovered & Fit for Service	80.38
Died	5.41
Otherwise discharged (mainly unfit)	7.62
In hospital at end of period	6.58

These results may be taken up separately for each category and related to average army strength.

a) Dead.

The aggregate number dead from sickness (excluding fractures) for the four-year period, 117,556,[12] yields a rate of loss of .46% annually, when related to the average annual army strength. To this, however, must be added the number of deaths from sickness occurring outside medical treatment. The total number of such cases being 5,744[12] the loss rate is increased from .46% to .48. The rate is increased further, when we add the number dead from fractures, etc. There were 3,184[13] such cases throughout the period, and the rate of loss thus amounts to .50.

11/ p. 101*; this excludes fractures which cannot be included in this specific instance.
12/ p. 26
13/ p. 174

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It should be noted that neither accidents nor suicides are counted in this total.

That this is so is evident from Table 151* which lists the number of deaths from sickness outside medical treatment at 22,746. This compares with 117,556 who died in hospitals. The 22,746 consist of 5,744 sick, 13,470 who died in accidents, and 3,532 dead by suicide.[14] Aggregate non-battle losses through death, including deaths from fractures, etc., therefore amount to 143,486, corresponding to an annual rate of loss of 0.56% of average annual army strength.

b) Unfit for further military service as a consequence of sickness.

The number of those unfit for further military service is sometimes included in the more general category called "otherwise discharged." This larger category amounts to 495,497 for the four-year period, or to an annual rate of loss of 1.94% of average annual army strength.[15] This rate is increased to 2.01 when unfitness from fractures etc. is added. Obviously no further additions have to be made

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* This table appears at the end of Vol. III

14/ p. 26

15/ p. 101*; This compares with a rate of loss for unfitness etc.of sickness cases admitted to hospitals of 5.4% (see above).

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for men becoming unfit with the troops, since cases that neither die nor recover with their units are sent to hospitals. Therefore, the hospital records in this case are exhaustive.

The aggregate number of unfit proper, as a consequence of sickness, amounts to 358,202[16] for the entire period, i.e., to 1.41% of average annual army strength.[17] This rate compares with a wastage rate for all hospital cases due to sickness of 3.89% per annum.

It is interesting to mention at this point that in the case of 56% of all those discharged for unfitness, on account of sickness, or other mental or physical disabilities, the condition leading to discharge had neither been caused nor worsened through participation in the war.[18] How accurate this information is cannot be ascertained, but since these findings are tied up with the question of disability claims, there is legitimate reason for doubting if the percentage was not much lower than indicated above.

3) Frequency and Severity of Diseases.[19]

There are two sources for determining the frequency of given diseases as well as their consequences, viz.,

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16/ Table 151, op. cit.

17/ Due to the nature of the data, no correction can be made to this for fractures etc., but it is evident from the previous paragraph that the rate will not be higher than 1.45%.

18/ p. 28

19/ The underlying data are given in Tables I and II, below.

the troop sick reports and the hospital reports. The two differ greatly, as may be seen from all our tables. The reason for this is that it was often found impossible to diagnose a disease accurately in front line medical stations so that, for instance, many cases listed as grippe are later, in hospitals, rediagnosed as any number of other diseases. It is also true, of course, that between the time the soldier reports sick and the time that he reaches a hospital complications may have set in, influenza developing into pneumonia, etc. Nonetheless, the hospital records are the most valuable from the point of view of causes of permanent (as contrasted to temporary) losses through sickness.

(a) Sick and Admission Rates (incl. fractures).

The largest group, accounting for over 1/4 of all sickness cases, is that of diseases of the digestive organs. On the average, 22.1 cases were reported each year per 100 men of the army. This is a rate far in excess of the next highest group, skin diseases, which showed a rate of 14.7 per hundred. It is to be recalled that this group excludes dysentery, cholera, and typhoid fever, all of which are treated under "contagious diseases." On the other hand, of course, many of the cases diagnosed as "bellyache" or "diarrhea" at the front, were found to be dysentery, etc., when the cases reached a base hospital.

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This is apparent from a comparison of sickness rates and admission rates for dysentery: while 0.25% reported sick with dysentery, more than twice as many, 0.61%, were hospitalized for the same cause.

Among this group stomach and intestinal disturbances form the outstanding single cause, accounting for 63% of all cases in the group. Among the causes given are colds and frequent drenching of the body, lying on moist cold ground in trenches, irregular mealtimes, eating of cold food, unclean hands when eating, consumption of unripe fruit and bad drinking water. The disease shows a pronounced seasonal variation, with a peak reached in July and August three to four times as high as the low, usually occurring around February to April. Hospital admissions on the Eastern Front showed larger fluctuations and also higher peaks than those of the Western Front. In July 1915 an admission rate (monthly) of 1.21% was reached; in August 1917, .99%; whereas the highest admission rate recorded in the West was .79% in August 1916. It is interesting to note that the official German report refers to stomach and intestinal disturbances as "the scourge of the army" which, in contrast to cholera and dysentery, it was found impossible to check. The length of the disease usually did not exceed three to five days.20/

20/ This material is drawn from pp. 155-57

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As already mentioned, diseases of the skin (more literally translated the "outer coverings") are the second largest group, accounting for close to 17% of all sickness cases and amounting to 15 cases per 100 men each year. Though not quite 30% of the total number of cases reporting sick reached hospitals, these diseases may have accounted for a good portion of temporary casualties, since treatment is often long drawnout and causes prolonged absence from active duty, even though permanent losses are relatively small. Lice of course figure prominently in this group, which also includes frostbite. Unfortunately, no separate data are available on frostbite casualties. However, it is mentioned that frostbite seriously affected the 8th Army, fighting in Northern Lithuania in January and February 1917;21/ data on skin diseases of the 8th Army show an increase from December 1916 to January 1917 of 100% (1,888 cases to 3,551 cases per month) and a further rise from January to February of some 70% (3,551 to 5,837 cases per month). The number drops to 2,502 in March and 1,617 in April. No doubt the sudden bulge is largely due to the cold weather. Since we know the monthly strength of the 8th Army, we can roughly estimate the number of cases due to frostbite. From August to December

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1916 the sickness rate per month, for skin diseases, varies between .79 and .95%. For January 1917 it rises to 1.35 and for February 1917 to 2.31%. It can be safely assumed that the difference is due to frostbite. This would indicate a sickness rate through frostbite alone of about 1% per month.

Estimate of Frostbite Casualties
8th Army, 1916-1917[a]

Month 1916/17	(1) Number of skin disease cases	(2) Average Monthly Strength of the 8th Army	Ratio (1) ÷ (2)
Aug.	2,232	276,149	.0081
Sept.	2,057	261,095	.0079
Oct.	2,339	246,391	.0095
Nov.	2,224	239,470	.0093
Dec.	1,888	237,563	.0079
Jan.	3,551	263,912	.0135
Feb.	5,837	252,614	.0231
Mar.	2,502	244,109	.0102
Apr.	1,617	232,730	.0069

a/ Based on pp. 7* and 75.*

Next in order of frequency are the respiratory diseases, with an annual average sick rate of 10.5%, accounting for 11.9% of all sickness cases and for 11.1% of all hospital admissions. Pneumonia alone accounts for 1.7% of all admissions, corresponding to an annual rate per 1000 men of 6.2. Pleurisy ranks somewhat lower, but both are far exceeded by "other respiratory diseases" which must include a large number of colds, bronchitis, etc. As will be seen below, the number of deaths from pneumonia was much higher, even absolutely, than that of deaths from

"other respiratory diseases." As one would suspect, pneumonia is one of the diseases for which hospital admissions exceed the number of sick reports with the troops. Mortality (treated in detail below) from pneumonia increased year by year from 8% in 1914/15 to 14% in 1917/18, and was twice as high on the Eastern than on the Western Front during the first year.[22] It is worth noting that January and February 1917, which we have already noted for their high incidence of frostbite, were also high with regard to pneumonia cases. Taking again the 8th Army, we find a monthly rate of .045% as against .021% in the two preceding months.[23]

The only other group which accounted for more than 10% of all sickness cases is "contagious diseases" (including three so-called "general" diseases); the sickness rate per 100 men amounts to 9.46 per year, the admission rate to 5.15%. For the contagious diseases proper, the corresponding rates are 7.16% and 3.52%.

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23/ p. 45*

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Contagious Diseases, Average Annual Sickness and Hospital Admission Rates per thousand Annual Average Army Strength

	Sickness Reports per th. annual strength	% of Total	Hospital Admissions per th. annual strength	% of Total	Ratio of Sickness Reports to Hospital Admissions
Grippe	60.6	84.6	11.9	33.8	5.09
Malaria	3.6	5.0	4.7	13.4	.77
Dysentery	2.5	3.5	6.1	17.3	.41
Tuberculosis	2.2	3.1	5.3	15.1	.42
Typhoid Fever	1.1	1.5	4.6	13.1	.26
Diptheria	1.0	1.4	1.5	4.3	.67
Scarlet Fever	0.31	0.4	0.50	1.4	.62
Typhus	0.13	0.2	0.24	0.7	.54
Measles	0.12	0.2	0.16	0.5	.75
Cholera	0.09	0.1	0.13	0.4	.71
Smallpox	0.01	0.01	0.02	0.1	.5
TOTAL	71.66	100.0	35.15	100.0	2.04

As one would expect, grippe far outranks all other diseases in the more narrowly defined group, accounting for over 80% of all reported cases and one-third of all hospital cases. The reason for the discrepancy is on the one hand that hardly 20% of all grippe cases reach hospitals and that many of them are there re-diagnosed as some other disease. The frequency would no doubt be even higher, if the last three months of the war were covered by our data.

Besides grippe, the main contagious diseases in the World War were dysentery, tuberculosis, malaria, and typhoid fever. Two and one-half times as many cases were

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treated for tuberculosis in hospitals than had been diagnosed as such at the front. With the sole exception of grippe, a catch-all, this observation is true in some measure for all contagious diseases, most strikingly for typhoid fever, in the case of which four times as many hospital cases are reported than cases at the front.

In order to appraise the permanent effect of the various diseases rather than the losses occasioned by temporary absence, it is necessary to look at the number of deaths and discharges for unfitness cased by each of them.

b) Death and Unfitness, by diseases (incl. fractures)

In Table I is presented a complete breakdown of all cases of death and discharge for unfitness, etc.24/ The picture here is entirely different from that observed so far. Grippe, for instance, which figured so prominently among causes of sickness, is found to account for not even 1% of all deaths. Nervous diseases, accounting for only 24% of all cases of sickness, are responsible for 21.4% of all discharges for unfitness, and tuberculosis, responsible for 0.2% of all cases of sickness, accounts for 16% of all deaths from sickness.

24/ These breakdowns are available only for the wider group of discharges, including furloughs and desertions.

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Between them, tuberculosis, pneumonia, typhoid fever and diseases of the digestive tract (excl. contagious) account for half the deaths from disease. The eleven contagious diseases account for not quite 40% of all deaths from disease, while they do not even represent 10% of all reported sickness cases. Thus sickness rates and to a lesser degree admission rates in themselves may be very misleading, unless supplemented by mortality data.

The same is true for unfitness, as already indicated above by the data for nervous diseases which seem innocuous enough in terms of sickness or hospitalization rates, but are the biggest single cause for discharge for unfitness. As in the case of deaths, the top-ranking four diseases account for about half the total. Tuberculosis and diseases of the digestive tract are found in this category too, but typhoid fever and pneumonia are replaced by nervous diseases and "other respiratory diseases."

4) Average Number Hospitalized.

The following table lists the number in hospitals on July 31 each year, compared with the annual strength of the army for the year ending that day.

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Number Hospitalized July 31, 1915-1918[a/]

July 31	Total	Wounded	Sick	Army Strength	% of Army Strength Total	Wounded	Sick
	(thousands)						
1915	526	277	254	4,442	11.8	6.2	5.7
1916	589	260	329	6,684	8.8	3.9	4.9
1917	519	189	336	7,249	7.2	2.6	4.6
1918	694	276	418	7,115	9.8	3.9	5.9

a/ pp. 100*, 101*, 9

It is interesting to note that the size of the sick pool is quite constant around 5%, while that of the wounded naturally fluctuates with the intensity of fighting.

5) Sickness Rates of Officers and Men.

The material available permits only indirect conclusions. It consists of two tabulations, one showing relative death (battle and non-battle combined) rates of officers and men (incl. non-commissioned officers) of the Field Army,[25/] and one showing sick reports (sick and wounded combined) of officers and men (incl. non-commissioned officers) respectively.[26/]

The comparison of death rates shows officers' death rates to be 1.334 (1.42; 1.25) times those of men and non-

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25/ p. 132*; this is the only instance in which death rates are stated in terms of prescribed rather than actual strength. If it can be assumed that the ratio of actual to prescribed strength is the same for officers as for men, our computations, dealing with the relationship of ratios, are not affected. However, we can ascertain the margin of error by making two extreme assumptions: first, we can assume that actual officer strength is relatively twice as far below preseribed strength as is true for men; secondly, we can assume that officers are equal to prescribed strength, while men are as far below prescribed

commissioned officers. This comparison excludes medical and veterinary officers. If these are added, the ratio drops to 1.16, since medical and veterinary officers have a very low casualty rate.

The second source indicates that the rate of sickness and wounded reports for officers is only 36% of that for men and non-commissioned officers. For the Field Army the ratio is 42:100; for the Occupation Army, 14:100. These ratios are exclusive of medical and veterinary officers. When these are included, the corresponding ratios are 35:100, 40:100, and 13.5:100.

Now, since we know that officers are killed more frequently than men, it is safe to assume that they are also wounded more frequently than men. Therefore, we may conclude that of the officers reporting sick and wounded a relatively larger percentage is wounded rather than sick than is true for the men. This means that the ratio between the rate of sickness reports (excl. wounded) for officers and that for men is probably even lower than the ratio of 36:100, which we have found to exist for sick and wounded combined, and we may assume that the death rate from disease is no more than 1/3 that of men.

25/ (cont) strength as is indicated by the relationship between actual and prescribed strength of the army as a whole. The results of the two assumptions are shown in the text behind the basic ratio.

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6) Field Army and Occupation Army.

In order to appraise differences in non-battle casualties of the two armies, we have set up the following Table (see next page) which shows, for each group of diseases, the number of men reporting sick as a percentage of the average annual strength of the field and occupation army respectively. For our purpose, the sick reports are more significant in this instance than hospital admissions, because men of the Field Army will often be transferred to hospitals of the Occupation Army so that the breakdown tends to become blurred. Of course, this stricture to some degree applies as well to the sickness reports. Thus men showing symptoms of nervous diseases may be shifted from the Field to the Occupation Army, and when they finally report sick, they will show up in the medical record of the Occupation Army.

As one would expect, the group in which the sickness rate of the Field Army outruns that of the Occupation Army by the highest ratio are the contagious diseases: one-half as many in the Field Army report sick than in the Occupation Army (in terms of their own strength). Digestive disorders, and fractures and sprains show a similar picture, followed by skin diseases, ear diseases, diseases involving bones, muscles, joints, etc., and finally eye diseases. For all

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Sick Reports as Percent of Annual Average Strength, Field and Occupation Army

Disease	(1) Field Army	(2) Occupation Army	Ratio (1)÷(2)
Contagious	10.67	7.14	1.49
Nervous	1.87	2.73	.68
Respiratory	10.33	10.69	.97
Heart & Vascular	2.76	3.96	.70
Digestive	24.74	16.99	1.45
Genito-Urinary	2.13	2.34	.91
Venereal	1.69	2.74	.62
Eye	2.10	1.96	1.07
Ear	2.08	1.74	1.19
Skin	15.58	12.88	1.20
Bones, muscles, joints, etc.	8.08	7.24	1.11
Fractures, sprains, etc.	3.39	2.41	1.41
Other	3.90	4.07	.96
Observation	1.72	3.64	.47
TOTAL	91.04	80.53	1.13

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other groups, the Occupation Army shows a higher sickness rate. The reasons are obvious in most instances. Either the men are less exposed to contracting the disease (venereal diseases), or else the disease is such that men afflicted by it are likely to be shifted to the Occupation Army rather than to be discharged altogether.

7) The disease group "Diseases , not elsewhere specified" includes gas casualties, and though these should really be treated under battle casualties, a brief note is necessary here, since they are included in all our tabulations. The total number of men affected by gas is estimated to have been around 80,000 for the four-year period. Roughly 3% of all cases are estimated to have died.

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Due to its large size, the following document has been filmed in segments. The order of the segments is as follows: left to right, top to bottom.

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Table I. Sickness Reports, Hospital Admissions, Deaths, and Discharges for Unfitness, Furlough, and Desertions
August 2, 1914-July 31, 1918 *

	Disease	Sickness Reports per th. army strength, annual average	% of Total	Annual Hospitalizations per th. army strength, annual average	% of Total	Deaths		Discharges, Mainly Unfitness	
						Number	% of Total	Number	% of Total
1	Stomach & Intestines	139.2	15.9	44.5	12.0	10,576	8.8	40,038	7.8
2	Skin	136.2	15.6	39.1	10.4	1,195	1.0	23,799	4.6
3	Respiratory, other than (24)&(25)	93.7	10.7	31.4	8.4	3,689	3.1	41,288	8.1
4	Grippe	60.6	7.0	11.9	3.2	999	.8	3,915	.8
5	Muscles & Tendons	54.2	6.2	11.6	3.1	318	.3	10,478	2.0
6	Diseases, not elsewhere specified	39.6	4.5	18.8	5.1	6,588	5.5	17,833	3.5
7	Mouth, throat, incl. teeth	35.1	4.0	7.3	2.0	692	.6	4,445	.9
8	Fractures, sprains, etc.	30.5	3.5	13.6	3.7	3,184	2.6	16,777	3.3
9	Tonsilitis	26.3	3.0	6.5	1.7	310	.3	2,568	.5
10	Under Observation	23.8	2.7	16.0	4.2	630	.5	26,614	5.2
11	Bones & Joints, excl. (8)	23.7	2.7	6.9	1.8	623	.5	9,766	1.9
12	Heart	22.4	2.6	12.5	3.4	4,573	3.8	28,366	5.5
13	Genito-Urinary (excl. 15)	22.0	2.6	17.0	4.5	5,816	4.8	25,502	5.0
14	Nervous system	21.7	2.4	24.1	6.5	4,570	3.8	109,399	21.4
15	Venereal Diseases	20.5	2.3	28.0	7.5	435	.4	9,835	1.9
16	Eye, not contagious	20.0	2.3	7.7	2.1	82	.07	8,840	1.7
17	Ear	19.2	2.3	11.7	3.1	1,140	.9	14,348	2.8
18	Rheumatic Diseases	15.4	1.8	12.2	3.2	658	.5	18,326	3.6
19	Mailbed Infection	10.3	1.2	2.1	.6	80	.07	1,429	.3
20	Digestive, other than (1), (7), (9), (21)	10.3	1.2	2.8	.7	989	.8	2,376	.5
21	Hernia	9.8	1.1	6.3	1.7	534	.4	6,721	1.3
22	Vascular	9.3	1.1	5.2	1.4	2,368	2.0	6,675	1.3
23	Other contagious & general diseases	7.3	.9	4.0	1.1	4,533	3.8	2,881	.6
24	Pleurisy	5.7	.6	3.6	1.0	2,949	2.4	4,967	1.0
25	Pneumonia	5.1	.6	6.2	1.7	18,111	15.0	6,580	1.3
26	Malaria	3.6	.4	4.7	1.3	452	.4	1,488	.3
27	Dysentery	2.5	.2	6.1	1.7	8,646	7.2	2,706	.5
28	Tuberculosis	2.2	.2	5.3	1.4	19,337	16.0	59,744	11.7
29	Typhoid Fever	1.1	.1	4.6	1.3	11,723	9.7	2,347	.5
30	Diptheria	1.0	.1	1.5	.4	1,181	1.0	695	.1
31	Eye, contagious	.44	.05	.22	.06	3	.002	617	.1
32	Scarlet fever	.31	.04	.54	.1	623	.5	338	.07
33	Heatstroke	.25	.02	.19	.06	50	.04	284	.06
34	Typhus	.13	.01	.21	.06	1,345	1.1	125	.02
35	Measles	.12	.01	.17	.04	24	.02	85	.02
36	Cholera	.09	.01	.13	.03	1,693	1.4	72	.01
37	Smallpox	.01	.001	.02	.004	21	.02	7	.001
	TOTAL	873.65	100.0	374.68	100.0	120,740	100.0	512,274	100.0

* The data in this table are drawn from the material given on pp. 86-182, which describe each disease in some detail. The data on wounded (by gunshot, sabres, etc., and other wounds and injuries), also presented within the pages cited, have been excluded.

Table III. Basic Data, Annual Averages, 1914-1918

Average Annual Strength	
Field Army	4,183,099[1]
Occupation Army	2,189,410[2]
Total Army	6,372,509[3]
Cases Reporting Sick, incl fractures	5,568,862[4]
Cases Admitted to Hospitals, incl. fractures	2,387,193[5]
Dead through Sickness	
With Medical Treatment	29,389[6]
Without Medical Treatment	1,436[7]
Dead through Accident	3,368[8]
Dead through Suicide	883[9]
Dead from Fractures, etc.	796[10]
Discharged, other than by death or recovered after sickness	128,068[11]
Unfit, through Sickness, excl. fractures	89,550[12]

1/ p. 9
2/ p. 9
3/ p. 9
4/ pp. 19, 174
5/ pp. 101*, 174
6/ p. 26
7/ p. 26
8/ p. 26
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Table II Sickness Reports, Hospital Admissions by Major Groups, 1914-1918

Disease	Annual Sickness Reports		Annual Hospital Admissions	
	% of Annual Average Army Strength	Specified Disease as % of all Sickness Reports	% of Annual Average Army Strength	Specified Disease as % of all Hospital Admissions
Contagious & general	9.46	10.8	5.15	13.5
(Contagious only	7.16	8.1	3.52	9.2)
Nervous	2.17	2.4	2.41	6.5
Respiratory	10.45	11.9	4.12	11.1
Heart & Vascular	3.17	3.7	1.77	4.8
Digestive	22.08	25.2	6.74	18.1
Genito-Urinary (excl. Venereal)	2.20	2.6	1.70	4.5
Venereal Diseases	2.05	2.3	2.80	7.5
Eye	2.05	2.4	0.79	2.2
Ear	1.92	2.3	1.17	3.1
Skin	14.65	16.8	4.12	11.0
Bones, muscles, joints	7.79	8.9	1.85	4.9
Fractures & Sprains	3.05	3.5	1.36	3.7
Other	3.96	4.5	1.88	5.1
Under Observation	2.38	2.7	1.60	4.2
TOTAL	87.38	100.0	37.46	100.0

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